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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/048,119	06/10/2002	Reiner Gieck	449122022600	1678

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EXAMINER

AGHDAM, FRESHTEH N

ART UNIT PAPER NUMBER

2631

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/048,119	GIECK, REINER	
	Examiner	Art Unit	
	Freshteh N. Aghdam	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Objections*

Claim 9 is objected to because of the following informalities:

As to claim 9, the acronyms "AMI", "HDB3", and "2B1Q" should be defined fully as to overcome the indefiniteness in the claim.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ejzak (US 6,389,066).

As to claim 1, Ejzak teaches a method of data transmission comprising: determining at least one transmission method, with at least one transmission rate (i.e. speed) that represents a data throughput for different channel (i.e. line) parameters for uplink and downlink channels; measuring the line parameters (Fig. 3, means 90 and 100) of the line using the at least one transmission method; and selecting the at least one transmission method having the transmission speed in which the measured parameters are most compatible (Fig. 3, means 76, 100, 78, 90, 58, and 60). Ejzak is

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silent about storing data. One of ordinary skill in the art would clearly recognize that using memory to store data for further processing is well known in the art.

As to claim 2, Ejzak teaches the line parameters are represented by signal to noise ratio (i.e. attenuation and interference) and the delay-spread conditions and /or synchronization in the channel demodulator as it is well known in the art (i.e. run time) see (Col. 3, Lines 1-9 and 32-37; Col. 6 45-49).

As to claim 4, Ejzak teaches determining maximum data throughput for different line parameters with different transmission methods and transmission speeds by selecting the transmission methods in the frequency range of which the line parameters of attenuation and running time demonstrate the least amount of variations, and in which the interference signal has the least effect (Col. 2, Lines 65-67; Col. 3, Lines 1-9 and 32-37; Col. 6 45-49).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ejzak, and further in view of Zirwas (US 6,798,855).

As to claim 3, Ejzak teaches all the subject matters claimed above, except for the running time being determined by a measurement of the phase difference between two signals with different frequencies. Zirwas, in the same field of endeavor, teaches a synchronization method, wherein the running time is determined by a measurement of the phase difference between two signals (Col. 7, Lines 30-35). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Zirwas with Ejzak in order to synchronize two carrier signals (Abstract).

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ejzak, and further in view of Zhang et al (US 6,891,854).

As to claim 5, Ejzak teaches a central end and a decentral end (Fig. 3, means 25 and 38); measuring interference of the line (i.e. SNR value) before the line parameters are measured at the central end (Fig. 3, means 100 and 90); selecting and reporting a transmission method to the decentral end based on the line parameters for the selected transmission method (Fig. 3, means 58, 60, 78, and 90); the line parameters of the transmitted signal are measured by the decentral end (Fig. 3, means 38, 62, and 100); a signal is transmitted to the central end (Fig. 3, means 25) by the decentral end (means 38); checking an attenuation of the signal at the central end at the central end (Fig. 3, means 78, and 90) that is a function of the measured attenuation, another signal is transmitted from the central end to the decentral end (Fig. 3, means 48); and comparing the measured line parameters with the line parameters stored in memory, and determining the transmission method and the transmission speed as a function of the comparison (Col. 6, Lines 64-67; Col. 7, Lines 1-17). Ejzak is silent about the signal being a test signal and transmitted on two different frequencies and the sending and checking is repeated until the line parameters are worked off. One of ordinary skill in the art would clearly recognize that transmitting a signal on two different frequency bands is well known in the art of frequency diversity and it is done for data or reception integrity. Also, One of ordinary skill in the art would clearly recognize that the sending and checking could be repeated as long as the line parameters are being measured. Zhang, in the same field of endeavor, teaches a channel initialization and training

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process. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Zhang with Ejzak in order to determine the proper coding configuration best matched to the current channel condition to achieve the maximum channel capacity (Col. 7, Lines 65-67; Col. 8, Lines 1 and 2).

As to claim 6, Ejzak teaches the line parameters are stored in a table (Col. 7, Lines 1-17), such that the tables are assigned to different transmission methods with different speeds, and the selection of a transmission method for determining the line parameters and for determining the transmission method with the maximum throughput rate occurs by a comparison of the determined line parameters stored in the table (Col. 3, Lines 1-9; Col. 7, Lines 27-42).

As to claim 7, Ejzak teaches transmission units are each connected at ends of the line, where a communications terminal is connected to one transmission unit, and a communications system is connected to the other transmission unit (Fig. 3, means 60 and 76).

As to claim 8, one of ordinary skill in the art would clearly recognize that the transmission methods are represented by synchronous or asynchronous baseband transmission methods, or by a signal carrier or multi carrier frequency transmission methods.

As to claim 9, the one of ordinary skill in the art would clearly recognize that the baseband and carrier frequency transmission methods are well known in the art in order to transmit a signal from a transmitter to a receiver.

### **Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh Aghdam

August 3, 2005

  
**KEVIN BURD**  
**PRIMARY EXAMINER**